

REMARKS/ARGUMENTS

Applicant has carefully reviewed and considered the Office Action mailed on November 16, 2004, and the references cited therewith.

No claims are amended, no claims are canceled, and no claims are added; as a result, claims 1-27 are now pending in this application.

§102 Rejection of the Claims

Claims 11-13, 15, and 20-27 were rejected under 35 USC §102(b) as being anticipated by Billet (U.S. Patent No. 6,010,205). In the office action, the Examiner cited Col. 6, lines 27-42; Col. 10, line 63 to Col. 11, line 21; and Col. 11, line 53 to Col. 12, line 15 as describing providing at least one under/overprinting map defining a predetermined total percentage of under/overprinted pixels, the map enabling the printing of relatively more pixels in at least some rows corresponding to the defective printing elements and relatively fewer pixels in at least some other rows corresponding to other printing elements.

The Billet reference appears to describe a single strike printing mode in which less than 100% of the dots in a band are printed during a scan of a printhead and then, in a subsequent scan, different nozzles of the print device are scanned over the band to print dots which were not printed during the first scan. (See Col. 6, lines 33-38 of the Billet reference). According to the Billet reference, properly functioning nozzles are used to print areas that were not printed by defective nozzles. (See Col. 6, lines 39-42 of the Billet reference).

In addition, the Billet reference appears to describe a double strike printing mode in which all dots of a band are printed during a first scan of a printhead. In this print mode, the Billet reference appears to describe rescanning to create two layers of ink on each dot printed. (See Col 11, lines 56-62).

In contrast, Applicant's independent claim 11, describes, besides other things:

providing at least one under/overprinting map defining a predetermined total percentage of under/overprinted pixels, the map enabling the printing of relatively more pixels in at least some rows corresponding to the defective printing elements and relatively fewer pixels in at least some other rows corresponding to other printing elements.

Applicant's independent claim 24, recites, besides other things:

means for mapping at least one of the defective printing elements to at least one corresponding defectively-printed pixel row in a uniformly colored region of an image swath; and
means for under/overprinting with another printhead more pixel positions in at least one defectively-printed pixel row than in at least some other pixel rows so as to compensate for the defective printing element corresponding to the defectively-printed pixel row.

And, Applicant's independent claim 25, recites, besides other things:

at least one under/overprinting map for governing the printing of the drops of a corresponding at least one additional fluid, the map defining a relatively higher percentage of printable pixel locations in the pixel rows corresponding to defective ones of the printing elements and a relatively lower percentage of printable pixel locations in the pixel rows corresponding to functional ones of the printing elements.

The Billet reference does not describe providing at least one under/overprinting map defining a predetermined total percentage of under/overprinted pixels, the map enabling the printing of relatively more pixels in at least some rows corresponding to the defective printing elements and relatively fewer pixels in at least some other rows corresponding to other printing elements, as described by Applicant's independent claim 1.

Nor does the Billet reference describe means for under/overprinting with another printhead more pixel positions in at least one defectively-printed pixel row than in at least some other pixel rows so as to compensate for the defective printing element corresponding to the defectively-printed pixel row, as described by Applicant's independent claim 24.

And, the Billet reference does not describe at least one under/overprinting map for governing the printing of the drops of a corresponding at least one additional fluid, the map defining a relatively higher percentage of printable pixel locations in the pixel rows corresponding to defective ones of the printing elements and a relatively lower percentage of printable pixel locations in the pixel rows corresponding to functional ones of the printing elements, as described by Applicant's independent claim 25.

As such, each and every element of Applicant's independent claims 11, 24, and 25 are not described in the Billet reference. Accordingly, Applicant respectfully

requests reconsideration and withdrawal of the §102 rejection for independent claim 11, as well as those claims which depend therefrom.

§103 Rejection of the Claims

Claims 1-4 and 7-10 were rejected under 35 USC §103(a) as being unpatentable over Marler, et al. (U.S. Patent No. 5,975,677) in view of over Neese, et al. (U.S. Patent No. 6,302,511). In the office action, the Examiner cited Col. 7, lines 17-60 of the Neese, et al. reference as teaching printing individual pixels with at least one of the additional printheads such that a higher percentage of pixels in the rows corresponding to the defective elements are printed relative to the percentage of pixels printed in the rows corresponding to the functional elements.

The Neese, et al. reference appears to teach groups of jet masks that are used to replace non-functional jets. (See Col. 7, lines 28-32). According to the Neese, et al. reference, if a jet is found to be non-functional, the non-functional jet is masked or turned off so it cannot eject ink. To compensate for the non-functional jet, replacement jet masks are used in place of the non-functional jet.

In contrast, Applicant's independent claim 1 recites, besides other things:

printing individual pixels with at least one of the additional printheads such that a higher percentage of pixels in the rows corresponding to the defective elements are printed relative to the percentage of pixels printed in the rows corresponding to the functional elements.

The Neese, et al. reference does not teach printing individual pixels with at least one of the additional printheads such that a higher percentage of pixels in the rows corresponding to the defective elements are printed relative to the percentage of pixels printed in the rows corresponding to the functional elements.

The Marler, et al. reference fails to cure the deficiencies of the Neese, et al. reference. The Marler, et al. reference appears to teach a calibration system in which ink drops are deposited on a print media by first and second arrays of ink drop elements. The Marler, et al. reference does not teach printing individual pixels with at least one of the additional printheads such that a higher percentage of pixels in the rows corresponding to the defective elements are printed relative to the percentage of pixels printed in the rows corresponding to the functional elements.

As such, each and every element and limitation is not provided in the references, either independently or in combination, to support a §103 rejection of claim 1. Accordingly, Applicant respectfully requests, withdrawal and reconsideration and withdrawal of the §103 rejection of independent claim 1, as well as those claims that depend therefrom.

Claims 5 and 6 were rejected under 35 USC §103(a) as being unpatentable over Marler, et al. (U.S. Patent No. 5,975,677) and Neese, et al. (U.S. Patent No. 6,302,511), as applied to claim 1 above, and further in view of Sato (U.S. Patent No. 5,933,164). Claim 14 was rejected under 35 USC §103(a) as being unpatentable over Billet (U.S. Patent No. 6,010,205), as applied to claim 11 above, and further in view of Hickman (U.S. Patent No. 4,963,882). Claims 16, 18 and 19 were rejected under 35 USC §103(a) as being unpatentable over Billet (U.S. Patent No. 6,010,205), as applied to claim 15 above, and further in view of Sato (U.S. Patent No. 5,933,164). Claim 17 was rejected under 35 USC §103(a) as being unpatentable over Billet (U.S. Patent No. 6,010,205) and Sato (U.S. Patent No. 5,933,164), as applied to claim 16 above, and further in view of Suzuki, et al. (U.S. Patent No. 6,238,047).

The Sato, Hickman, and Suzuki, et al. references do not cure the deficiencies of the Billet, Marler, et al., and/or Neese, et al. references. Since claims 5, 6, 14, and 16-19 depend from one of claims 1 and 11, claims 5, 6, 14, and 16-19 are deemed allowable. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the §103 rejections for claims 5, 6, 14, and 16-19.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (360) 212-0769 to facilitate prosecution of this matter.

At any time during the pendency of this application, please charge any additional fees or credit overpayment to the Deposit Account No. 08-2025.

CERTIFICATE UNDER 37 CFR §1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS AMENDMENT Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450 on this 10th day of February, 2005.

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Amendments to the Drawings:

The drawings are objected to because in Figure 4D element 76d the caption reads "No White Space, Higher Saturation" but the figure contains two completely white circles indicating no printing. A "replacement sheet" has been included in this reply and can be found in the Appendix following page 12.

The first attached sheet of drawings includes changes to Fig. 4D. This sheet, which includes Fig 4D, replaces the original sheet including Fig 4D. In replacement Figure 4D, vertical lines have been added to element 76d.

Figure 6 is objected to as failing to comply with 37 CFR I .84(p)(5) because it includes reference character (51t) not mentioned in the description. The second attached sheet of drawings includes a replacement Figure 6 with reference character (51t) removed.

Accordingly, Applicant respectfully requests acceptance of the replacement drawings sheets, reconsideration, and withdrawal of the objection to the drawings.